

1. A worktable-elevating device for a planer combined with:

A bottom base having its four corners respectively fixed with a guide column, said bottom base having a worm secured at a preset position on one side:

A worktable slidably fitted on said four guide columns, said worktable screwing with said worm of said bottom base, said worktable able to be moved up and down along said four guide columns, said worktable provided with an actuating shaft at one side, said actuating shaft fixed thereon with an actuating chain wheel, said actuating chain wheel meshing with an endless chain:

Said worktable elevating device comprising a base body, an input gear unit, two output gear units, a worm holder and a control rod:

Said base body fixedly assembled on one side of the topside of said planing table:

Said input gear unit assembled at a preset location of said base body, said input gear unit provided with a transmission shaft, said transmission shaft having one end fixed thereon with a driven chain wheel, said driven chain wheel driven to rotate together with said actuating chain wheel of said planing table by means of said endless chain:

Said two output gear units respectively assembled at preset positions of said base body, said two output

gear units movably fitted around said worm of said bottom base, said two output gear units respectively meshing with said input gear unit to rotate reversely:

5 Said worm holder screwing with said worm between said two output gear units, said worm holder respectively separated from said two output gear units by a preset distance:

10 Said control rod having an end pivotally assembled at a preset location of said base body beside said worm holder, said control rod having a portion near its pivotal fulcrum connected with said worm holder, said worm holder moved up or down to be meshed with one of said two output gear units and actuated to rotate when said control rod is pulled upward or downward, said worm
15 holder disengaged from said output gear unit and stopping rotating when said control rod is released to recover its original position: and

20 Said control rod pulled upward or downward to let said worm holder meshed with one of said two output gear units, said worm holder driven to rotate along said worm and actuate said worktable to quickly move up and down.

2. The worktable elevating device for a planer as claimed in Claim 1, wherein said base body comprises a
25 vertical bearing holding plate having two pivotal lugs respectively extending outward at its opposite lower sides to be fixedly assembled on the topside wall of said

worktable by bolts, said vertical bearing holding plate provided with a shaft hole in the center, said shaft hole having its inner side bored with a recessed bearing groove with a comparatively large diameter, said
5 vertical bearing holding plate having its upper and lower end respectively extending outward to form a horizontal bearing holding plate, said two horizontal bearing holding plates respectively bored with a shaft hole in the center, said shaft hole of each said horizontal bearing
10 holding plate having its inner side bored with a recessed bearing groove with a comparatively large diameter, a plate cover fixed on the free end wall of said two horizontal bearing holding plates, said plate cover having one side provided at preset positions with an
15 upper and a lower pivotal member, said two pivotal members extending outward horizontally toward said base body.

3. The worktable elevating device for a planer as claimed in Claim 2, wherein said input gear unit
20 comprises a bearing, a transmission shaft and a bevel gear, said bearing positioned in said bearing groove of said vertical bearing holding plate by a C-shaped lock washer, said transmission shaft pivotally inserted through said bearing, said transmission shaft having one
25 end extending out of said shaft hole of said vertical bearing holding plate for fixing said drive chain wheel thereon, said bevel gear having its central shaft hole

fitted around said transmission shaft at the inner side of said base body, said bevel gear fixed on said transmission shaft by a C-shaped lock washer to rotate together and meshing with one of said two output gear units.

4. The worktable elevating device for a planer as claimed in Claim 2, wherein said two output gear units are respectively assembled on said two horizontal bearing holding plates and respectively comprise a bearing and a bevel gear, said bearing firmly positioned in said bearing groove of said horizontal bearing holding plate by a C-shaped lock washer, said bevel gear bored with a central shaft hole to be fitted around said worm, a preset gap formed between said central shaft hole of said bevel gear and said worm, a shaft tube extending from one side of said central shaft hole, said shaft tube pivotally inserted through said bearing, said bevel gears of said two output gear units respectively meshing with said bevel gear of said input gear unit and driven to rotate, said bevel gear of each said output gear unit having one side, opposite to said shaft tube, annularly provided with plural projecting engaging teeth with a preset shape.

5. The worktable elevating device for a planer as claimed in Claim 3 or 4, wherein said bevel gear of said input gear unit meshes with said two bevel gears of said two output gear units.

6. The worktable elevating device for a planer as claimed in Claim 2, wherein said worm holder is provided with a threaded hole in the center to screw with said worm and has its intermediate outer edge formed with two annular walls, having an annular position groove formed between said two annular walls, said worm holder having its upper and lower side respectively provided with plural engaging teeth preset in shape and protruding axially, said engaging teeth of said worm holder meshing with said engaging teeth of said output gear unit and driven to rotate.

7. The worktable elevating device for a planer as claimed in Claim 4 or 6, wherein said engaging teeth provided on the upper and the lower side of said worm holder are respectively meshed with said engaging teeth on said bevel gear of said two output gear units and driven to rotate.

8. The worktable elevating device for a planer as claimed in Claim 2 or 6, wherein said control rod is shaped as an elongate plate and has one end pivotally assembled on said plate cover of said base body and has a position stud fixed at a preset location near its pivotal fulcrum, said position stud inserted in said annular position groove of said worm holder, said position stud actuating said worm holder to move toward one of said two output gear units when said control rod is pulled upward or downward.

9. The worktable elevating device for the a planer as claimed in Claim 1 or 2, wherein said two elastic compressing units respectively comprise a pressing bolt, a compression spring and two locking nuts, said
5 compressing bolt fitted thereon with said compression spring and vertically inserted through said pivotal member of said plate cover, said compressing bolt positioned on said pivotal member of said plate cover by said locking nuts, the heads of said two compressing
10 bolts elastically pressing a preset portion of said control rod, said control rod able to automatically recover its original position by the resilience of said elastic compressing unit after said control rod is released.

10. The worktable elevating device for a planer as
15 claimed in Claim 1, wherein said actuating shaft and the knife shaft of said worktable are driven to operate by the same motor.

11. The worktable elevating device for a planer as claimed in Claim 1, wherein a backlash of a preset size
20 between said worm holder and said worm is set in advance and the size of said backlash is approximately equivalent to the total of two engaging gaps formed between said worm holder and said two output gear units so as to enable said worm holder to move upward and
25 downward and be engaged closely and smoothly with said two output gears.